

Makoto NISHIDA\*: *Cedroxylon Yoshidai*, a new fossil wood  
from the Cretaceous of Miyako, Iwate Prefecture\*\*

西田 誠\*: 宮古産白亜紀材化石の一新種\*\*

(Plate VI)

Mr. Takashi Yoshida, Geological Survey of Japan, has kindly sent me two fossil woods which he had collected from the Lower Cretaceous of Miyako, Iwate Prefecture. Both specimens have been registered in the Laboratory of Phylogenetic Botany at the Chiba University, Nos. 6651 and 6652. The one from Moshi, No. 6651, is ill preserved and could not be identified. The other from Hideshima, No. 6652, is remarkably well preserved for identification.

*Cedroxylon Yoshidai* sp. nov.

No. 6652 is a fragment of small trunk, 14 cm long and 5.5 cm and 8.5 cm in short and long diameters respectively, consisting of small pith, primary wood and secondary wood. Pith and primary wood around it are ill preserved and the most of their tissues are corroded, and the secondary wood also somewhat ill preserved, but some parts of the tissues are more or less well preserved for identification.

*Description.* Secondary wood consists of tracheids, rays and small number of wood parenchyma. Growth rings not visible. Normal and traumatic resin canals not present.

Tracheids regularly arranged in radial rows, almost rectangular or more or less elongated in radial direction, 25–50  $\mu$  and 25–65  $\mu$  in tangential and radial diameters respectively. Bordered pits on radial walls of tracheids circular and somewhat horizontally flattened, contiguously or often separately arranged always in one row, 15–18  $\mu$  in diameters, and with circular pit apertures of 5–7  $\mu$  in diameters. Rims of Sanio not visible, but sometimes dark line visible between contiguous bordered pits. Bordered pits on tangential walls rarely visible on some tracheids; smaller, circular and contiguously or separately arranged in one row. Rays all parenchymatous, always uniseriate, mostly 2–6 cells high, but sometimes 1 or 8 cells high in extreme cases, and running at intervals of 2–15, 6.5 in average, rows of tracheids

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in cross section. Ray cells comparatively wide rectangular in tangential section,  $15-25\mu$  and  $13-18\mu$  in vertical and horizontal diameters respectively. All walls of ray cells pitted; abietineous pitting present. Simple pits on the horizontal walls sparsely arranged in irregular one or two rows and those on the tangential walls are 2-3 in number,  $1.5-2.5\mu$  in diameters. Pits in the cross field simple, ovoid or circular, 4-6, sometimes 3 or 7, in number and  $1-2.5\mu$  in diameters.

Wood parenchyma few, scattered very sparsely among the tracheids, and occluded with brown resinous substances. Some of tracheids also occluded with brown substances and seemingly resembling wood parenchyma.

The most of the tissue of primary xylem eroded and its precise structure not visible. Pith also ill preserved but preserved tissue all parenchymatous, and some of the cells occluded with brown substances.

*Affinity.* As above described, this specimen has bordered pits of the brachyoxyle type on the tracheids and abietineous pittings on the ray cells. Woods provided with these two diagnostic characters may be belonged to so-called Protopinaceae. Among them, *Planoxylon* differs from this specimen, as it is characterized by typical araucarian type of pitting rather than brachyoxyle type. *Metacupressinoxylon* is distinguished from the present specimen in having abundant diffused wood

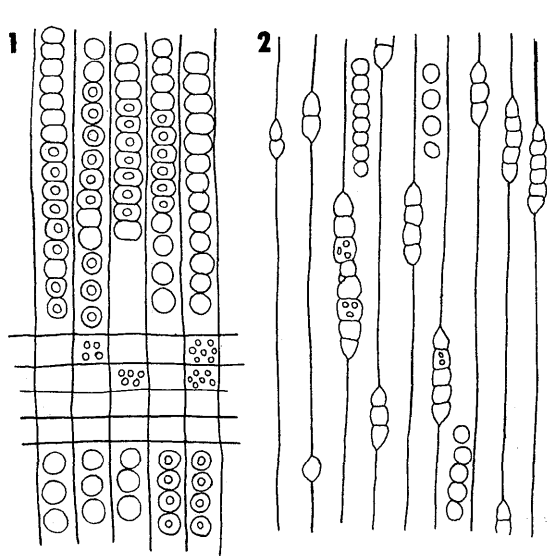


Fig. 1. *Cedroxylon Yoshidai* sp. nov. Half diagrammatic figures of radial (1) and tangential (2) sections.

parenchyma. *Protocedroxylon* (including *Metacedroxylon*), *Araucariopitys* and *Thylloxylon* can be hardly separated from each other in being devoid of diffused wood parenchyma and in having similar sculpture on the walls of tracheids and ray cells. These three genera are also inseparable from *Cedroxylon*. As for systematic treatment of these genera, I will discuss in future papers.

This specimen resembles

*Cedroxylon inaequale* Reiss (1907) from Upper Cretaceous of Hokkaido in the status of tracheids and rays, but differs from the latter in having 4-6 pits in the cross field instead of only 1-2 pits in the latter. This species also distinguished from *C. Matsumurae* Stopes et Fujii (1910) from the Upper Cretaceous of Hokkaido, having none of wood parenchyma, bordered pits alined frequently in two rows and indefinite abietineous pitting, from *C. Yendoi* Stopes et Fujii (1910), (Shimakura 1937), from the Upper Cretaceous of Hokkaido, having usually two rowed bordered pits, from *Abiocalis yesoensis* Suzuki (1910), from the Upper Cretaceous of Hokkaido, having always separate bordered pits and one or two large pits in the cross field, and from *C. sp.* (Shimakura's species 1937), from the Upper Cretaceous of Hokkaido, having visible Rims of Sanio and higher rays, up to 20 cells high, which are often biseriate in part.

I would like to register the present specimen as a new species as I have never been informed of foreign species with which the present specimen could be identified. Specific epithet originates in Mr. Takashi Yoshida, the collector of this specimen.

Horizon. Lower Cretaceous: Miyako series (Aptian?).

Locality. The coast of Hideshima, Miyako, Iwate Prefecture.

Registered number. No. 6652 (holotype).

#### Cited literatures

- Reiss, K. 1907. Untersuchungen über fossile Holzer aus Japan. Inaugural-Dissert. Philosoph. Fakul. Univ. Leipzig. pp. 224. Seward, A. C. 1919. Fossil plants. Camb. Univ. Pr. pp. 543. Shimakura, M. 1937. Sci. Rep. Tohoku Imp. Univ. 2nd Ser. **19** (1): 1-73. Stopes, M. C. and Fujii, K. 1910. Phil. Trans. Roy. Soc. London, Ser. B, 201. Suzuki, Y. 1910. Bot. Mag. Tokyo **24**: 181-191.

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工業技術院地質調査所の吉田 尚氏から岩手県宮古市附近の下部白亜紀宮古統から産出した2個の材化石がとどけられた。そのうち茂師産の No. 6651 は保存が悪く、同定できなかったが、日出島海岸産の No. 6652 は一部に保存良好な組織が残されており、*Cedroxylon* の新種であることがわかった。標本は長さ 14 cm, 径 5.5×8.5 cm の扁平な柱体で、中心部には径 4—5 mm の小さな髓と、それを取りまく少量の一次木部があるが、それらの保存状態は極めて悪く、詳しい構造は不明である。二次木部の多くも組織はいちじるしく破壊されているが、所々にほぼ完全に保存されている組織があり、同定することができた。二次木部は仮道管、放射組織およびごく少数の木部柔組織とから

成り、樹脂道はない。褐色の物質を含んだ仮道管が散在して、一見して木部柔組織のように見える。仮道管は正多角形または放射方向にやや長い長方形で、直径  $25\sim 65\mu$ 。有縁孔は円形またはやや水平に平たい円形。大てい相接して常に 1 列に並び、しばしば離生することもある。径  $15\sim 18\mu$ 。円形の径  $5\sim 7\mu$  の孔口をもつ。切線壁にも時にはやや小型の有縁孔が離生、または接続して見られる。髄線は常に 1 列で 2—5 細胞高、まれに 1 または 8 細胞高になることもある。髄線細胞にはモミ型膜孔がある。すなわち水平壁にはまばらに 1—2 列に、切線壁上には 2—3 個の円形の単膜孔がある。分野には 4—6 個、まれに 3 または 7 個の小孔がある。髄はすべて柔細胞からできていて、石細胞はないようである。本種は brachyoxyllic なる有縁孔とモミ型膜孔をもつ点で、いわゆる古生マツ科 (Protopinaceae) の一員であることは明かである。しかしその科のうち *Planoxylon* は典型的なナンヨウスギ型の有縁孔をもっているので本種とちがい、*Metacupressinoxylon* には多数散在する木部柔組織があるので、これまた本種とちがう。brachyoxyllic なる有縁孔、モミ型膜孔、少数の木部柔組織、これらは *Cedroxylon* の特徴である。

有縁孔が常に 1 列であり、髄線も 1 列で、高さが 2—6 細胞高であるという点で、本種は、*C. inaequare* Reiss (1907) に最もよく似ているが、分野の膜孔が多いので区別でき、またその他の邦産種、外国産種とも異っている。*C. Yoshidai* という種小名はこの標本の発見者、吉田 尚氏に因んだものである。本研究を御指導下さった千葉大学・亙理俊次教授に感謝の意を表する。

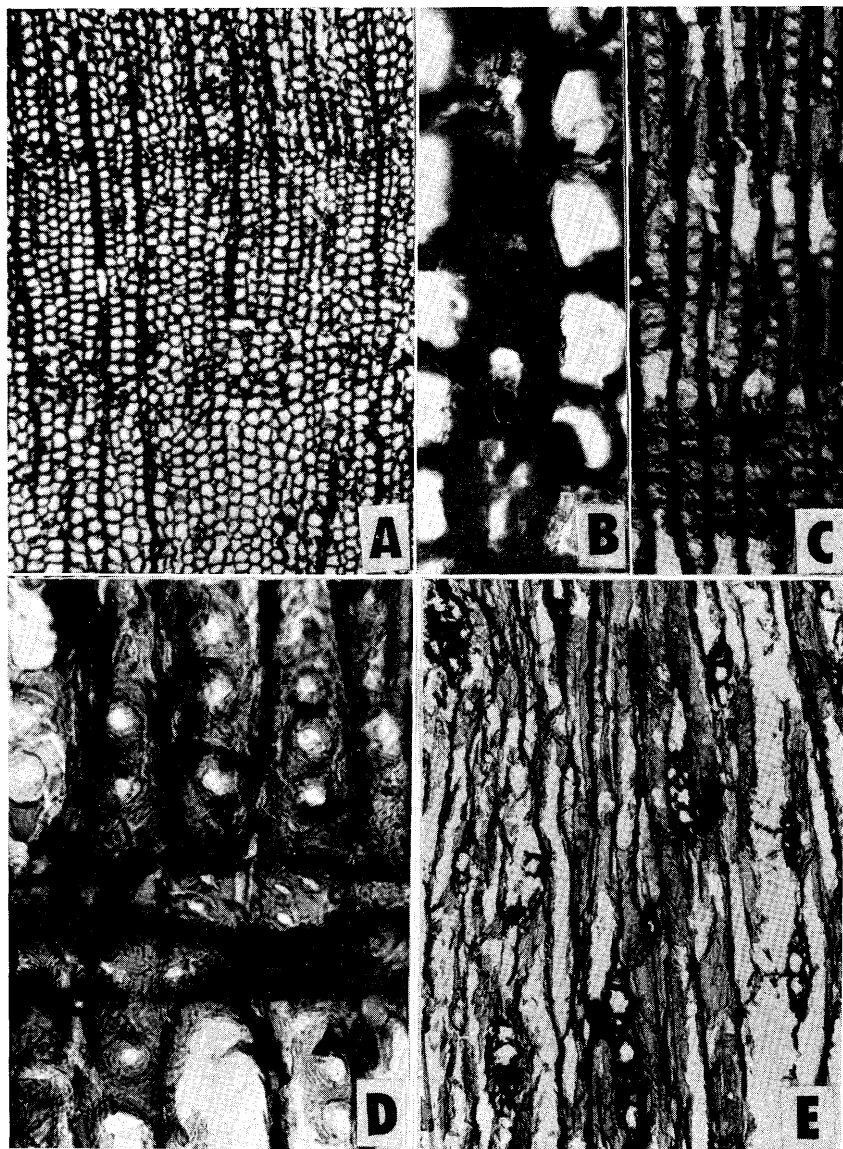
#### Explanation of the Plate VI

Pl. VI. *Cedroxylon Yoshidai* sp. nov. A & B: cross sections. B is a magnified photograph of a part of A and showing abietineous pitting on horizontal wall of ray cell. C & D: radial sections. E: tangential section.

A:  $\times 100$ , C & E:  $\times 150$ , B & D:  $\times 400$ .

○アヤメ属の葉の表裏について (前川文夫) Fumio MAEKAWA: On the secondary dorsiventrality in the *Iris* leaf.

よくハナショウブの季節になると、毎年のようにアヤメとカキツバタとの 3 種類の区別がうたわれ、そしてハナショウブでは葉の中肋が隆起しているとされている。*Iris* は御承知のように剣状葉で跨状に  $\frac{1}{2}$  の葉序に互いに重なり合っているのだから、中肋といえ、形態上は見掛け上の方の縁辺につくはずである。それが葉面の中央に隆起するとなればいささか腑に落ち難いと、おそまきながら気がついて調べてみた。するとこれは中肋ではなくて、側脈の一部が機械組織のために隆起するものであることがわかつ



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